

Claims

1. An optical fiber component comprising:

an optical element having a light incident end face on its one side and a light exit end face on its other side;

a pair of photonic crystal fibers having their individual one-side end faces optically connected to the two end faces of said optical element; and

a pair of single mode fibers having their individual one-side end faces optically connected to the other end faces of said pair of photonic crystal fibers,

said pair of photonic crystal fibers having a mode field diameter made larger than that of said pair of single mode fibers.

2. An optical fiber component comprising:

an optical element having a light incident end face on its one side and a light exit end face on its other side;

a pair of photonic crystal fibers having their individual one-side end faces optically connected to the two end faces of said optical element;

a pair of collimation lenses having their individual one-side faces optically connected to the other end faces of said pair of photonic crystal fibers; and

a pair of single mode fibers having their individual one-side end faces optically connected to the other end faces of said pair of collimation lenses,

said pair of photonic crystal fibers having a mode field diameter made larger than that of said pair of single mode fibers;

said pair of collimation lenses having a mode field diameter gradually enlarged from the single mode fibers to said photonic crystal fibers.

3. An optical fiber component as set forth in claim 1 or 2, wherein said optical element is made of an optical isolator, an optical filter, an optical switch or an optical variable attenuator, or a combination thereof.

4. An optical fiber component comprising:

a single mode fiber; and a photonic crystal fiber having an end face optically connected to an end face of said single mode fiber and having a mode field diameter larger than that of said single mode fiber,

the external diameter of said photonic crystal fiber being made substantially equal to a ferrule making an optical connector.

5. An optical fiber component comprising:

a single mode fiber; a collimation lens having an end face optically connected to an end face of said single mode fiber and having a mode field diameter gradually enlarged; and

a photonic crystal fiber having an end face optically

connected to the other end face of said collimation lens and having a mode field diameter larger than that of said single mode fiber,

the external diameter of said photonic crystal fiber being made substantially equal to a ferrule making an optical connector.

6. An optical fiber component as set forth in claim 2 or 5, wherein said collimation lens is a graded index fiber.

7. An optical fiber component as set forth in claim 6, wherein said graded index fiber has an end face fused to the end face of said graded index fiber.

8. An optical fiber component as set forth in any claims 4 to 7, wherein a connector housing is attached to the leading end portion of said photonic crystal fiber.

9. An optical fiber component as set forth in any claims 1 to 8, wherein said photonic crystal fiber has a mode field diameter of at least 20 μm .